

## ENVIRONMENTAL MANAGEMENT SYSTEM OPERATING PROCEDURE

### Monitoring, Measurement, and Instrument Calibration

Effective Date: January 14, 2010

Christopher Taylor  
PLMG/SIIM (ISSS)

#### APPROVED:

|  |                         |
|--|-------------------------|
| <u>                    //SIGNED//                    </u><br>Peer Reviewer   | <u>01/14/10</u><br>Date |
| <u>                    //SIGNED//                    </u><br>EMS Management Representative                                       | <u>01/15/10</u><br>Date |
| <u>                    //SIGNED//                    </u><br>Independent QA Reviewer   | <u>01/25/10</u><br>Date |
| <u>                    //SIGNED//                    </u><br>Designated Safety, Health, and Environmental<br>Management Official | <u>02/02/10</u><br>Date |

#### Recertified:

|      |  |  |  |  |  |
|------|--|--|--|--|--|
| Name |  |  |  |  |  |
| Date |  |  |  |  |  |

## **TABLE OF CONTENTS**

| <b><u>Section</u></b> | <b><u>Section Title</u></b>                        | <b><u>Page</u></b> |
|-----------------------|--|--------------------|
| <b>A.</b>             | <b>PURPOSE AND APPLICABILITY .....</b>             | <b>Page 3 of 5</b> |
| <b>B.</b>             | <b>DEFINITIONS .....</b>                           | <b>Page 3 of 5</b> |
| <b>C.</b>             | <b>PROCEDURAL STEPS .....</b>                      | <b>Page 3 of 5</b> |
| <b>D.</b>             | <b>RECORDS MANAGEMENT .....</b>                    | <b>Page 5 of 5</b> |
| <b>E.</b>             | <b>QUALITY ASSURANCE AND QUALITY CONTROL .....</b> | <b>Page 5 of 5</b> |
| <b>F.</b>             | <b>REFERENCES .....</b>                            | <b>Page 5 of 5</b> |

**ATTACHMENTS:** None

## **A. PURPOSE AND APPLICABILITY**

The purpose of this operating procedure (OP) is to establish a consistent process for monitoring and measuring the key characteristics of the Region's activities, products, and services (*e.g.*, processes), that contribute to its significant aspects and for ensuring that equipment used to monitor / measure performance related to these processes is properly calibrated. Typically, monitoring and measuring requirements are specified as performance indicators in the various environmental management programs (EMPs), sustainability management programs (SMPs), and operational controls (OCs) established by the Region. Some of these indicators are established to meet reporting requirements passed down to the Region from higher Headquarters' functions.

This OP applies to all processes within the stated scope of the EPA Region 7 Environmental Management System (EMS).

## **B. DEFINITIONS**

All definitions may be found in the document titled *US Environmental Protection Agency Region 7 Environmental Management System Terms and Definitions* contained in the EMS Manual. For the purposes of this OP, the following terms apply:

- Activity, Product, or Service
- Calibrate
- EMS Document
- EMS Record
- Environmental Management Program (EMP)
- Environmental Objective
- Environmental Target
- Operational Control
- Responsible Manager
- Sustainability Management Program (SMP)

## **C. PROCEDURES**

1. Monitoring and measuring allows decision makers to determine whether or not a specific process is operating within specific parameters and, if not, where changes need to be made in the process to achieve the desired level of performance. In considering what to measure / monitor relative to EMS performance there are generally three categories of requirements that should be considered: 1) things that are monitored through taking quantitative measurements (*i.e.*, number of gallons of fuel used and the pH level of discharged wastewater); 2) things that are monitored through a single assessment (*i.e.*, was a procedure updated on time); and 3) things that are monitored through examining trends (*i.e.*, progress toward achieving objectives and targets). To this end, the EMS Coordinator, or their designee, will develop and

- maintain a master list of all monitoring and measuring requirements (an EMS document) pertinent to the EMS that fall within Categories #1 and #2 above. Requirements related to trends (Category #3), particularly the examination of progress toward achieving objectives and targets, are documented on the individual EMP and SMP forms at least quarterly and do not need to be tracked on the master list.
2. The Master List of Monitoring and Measuring requirements is intended to be a “living document” in that it should be updated whenever new requirements are discerned throughout the EMS cycle. In developing the list, the EMS Coordinator should consider the various objectives, targets, tasks, and requirements specified in the various EMPs and SMPs, as well as requirements related to the maintenance of operational controls. In addition, the EMS Coordinator should consider any underlying activities that “feed into” the processes being monitored / measured to determine if monitoring / measuring at these subordinate levels will enhance the ability of the Region to make better and more informed decisions regarding its performance. At a minimum the master list of monitoring and measuring requirements shall include the:
    - EMP, SMP, and / or OC from which the monitoring / measuring requirement is derived;
    - Parameters and / or processes being monitored / measured;
    - Frequency of measuring / monitoring;
    - Person responsible; and
    - Location of the appropriate record.
  3. Periodically, but at least once each EMS cycle, the EMS Coordinator and others, as appropriate, will review the master list of monitoring and measuring requirements to determine if it is sufficient to adequately track the performance of the Region’s EMS and / or to make adequately informed decisions about the Region’s performance. If it is determined that additional monitoring and / or measurements are needed, the EMS Coordinator will work with the appropriate manager responsible for the process to develop the indicator and then add it to the Master List.
  4. The EMS Coordinator, or their designee, shall develop a master list of all equipment that requires calibration and is used to monitor / measure performance within the Region’s EMS (an EMS document). This list shall include the name, manufacturer, model number of each piece of equipment; the frequency of calibration; when the last calibration was completed and when the next is due; who is responsible for performing the calibration; and the location of the calibration record. The list of equipment requiring calibration should be reviewed and updated whenever the Master List of Monitoring and Measuring Requirements is reviewed to ensure any new

equipment is identified and added to the calibration list. In addition, the EMS Coordinator should contact the person(s) responsible for ensuring equipment calibrations are completed as needed to update the list with new last and next calibration dates.

#### **D. RECORDS MANAGEMENT**

This OP may require the generation of the following records:

| <u>Record</u>   | <u>Responsible Person</u> | <u>Record Location</u> |
|---|---------------------------|------------------------|
| Monitoring and Measurement<br>Master List Review Record | EMS Coordinator           | EMS Manual             |
| Equipment Calibration<br>Master List Review Record      | EMS Coordinator           | EMS Manual             |

This OP may also result in the creation of additional EMS records. Any records created will be managed in accordance with the most current version of SHEMS 006.7210.02, *Document Control & Records Management*.

#### **E. QUALITY ASSURANCE AND QUALITY CONTROL**

The quality assurance and quality control (QA/QC) success of the significant environmental aspect identification process, as detailed in this OP, will be determined through the internal and external EMS conformance audit processes. Deficiencies noted during these audits will be managed through the Region's Corrective/Preventive Action Process as defined in the current version of SHEMS 006.7210.12.

#### **F. REFERENCES**

Current versions of the following references are assumed if no date is provided.

1. ISO 14004:2004(E); *Environmental Management Systems – General Guidelines on Principles, Systems, and Support Techniques*; November 15, 2004
2. *US Environmental Protection Agency Region 7 Environmental Management System Terms and Definitions*
3. US EPA R7, *Document Control & Records Management*, SHEMS 006.7210.02
4. US EPA R7, *Corrective/Preventive Action Process*, SHEMS 006.7210.12